

photos by don dewey

As deceptive as its full-size counterpart, this quickly built Half-A midget racer is the fastest we've flown to date.

little mulligan

BY FRED REESE

The Little Mulligan was conceived, and the structure completed, in just one day while visiting relatives in Oakland. I had just finished reading the article on the RCM 1/2A Racers and felt that this class would be ideal for simple-to-build vintage type racers. Using the Ace foam wings, there are many designs that could be adapted to give the look and the color of the 30's.

The Little Mulligan has proved to be a very reliable and pleasant little airplane to fly. I have about fifty flights on mine and the RCM staff has over 100 flights on Don Dewey's with the EK and Cannon two channel brick

systems. It is extremely responsive to rudder and will do consecutive rudder rolls, Cuban Eights, Split-S's and other maneuvers normally requiring ailerons. *(Ed's note: It is also substantially faster than any 1/2A Racer flown to date, despite its deceptive appearance).*

For the first few flights use the regular Cox Glow Fuel until you get used to the airplane and have it trimmed out properly. Then switch to the Cox Racing Fuel for maximum performance. You'll find that with the racing fuel it is surprisingly fast. As I recall, the original Mr. Mulligan surprised everyone with its speed.

CONSTRUCTION

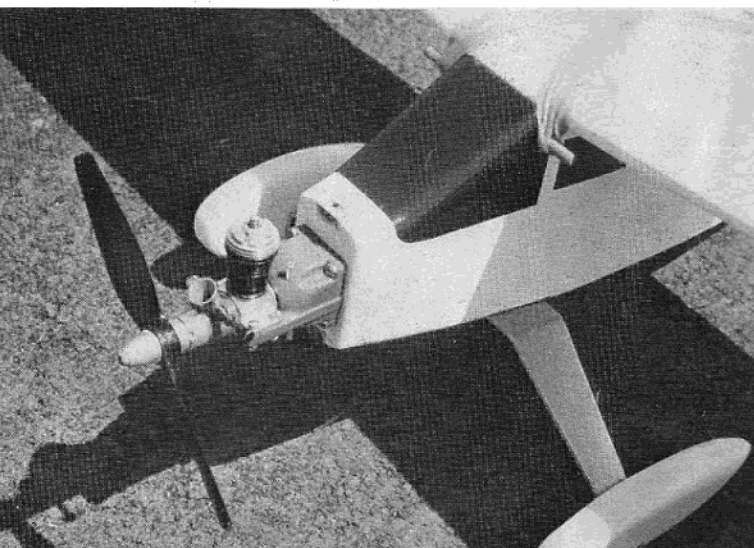
Begin by cutting out the fuselage sides and doublers from 3/32" sheet and the firewall and landing gear mount from 1/8" plywood. Note that the doublers are 1/4" smaller than the sides in front to allow the top and bottom 1/4" sheet pieces to be inset against the doublers. Contact cement the doublers to the fuselage sides and epoxy the firewall in place. Add the rear bulkhead and pull the tail together and glue. I used Devcon 5-Minute Epoxy for all of these gluing steps and it really saved time. Epoxy the landing gear mount in place and



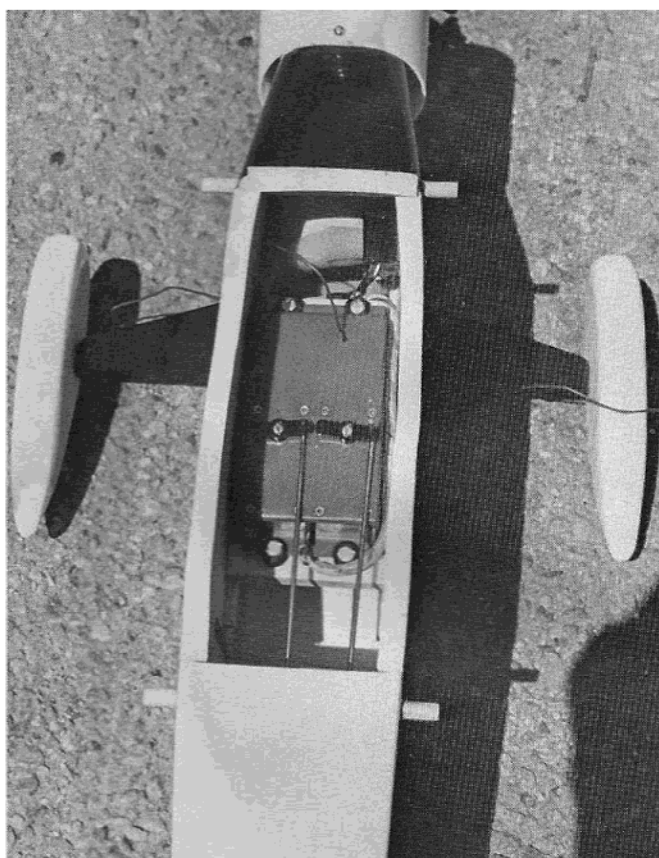
Simple sheet balsa "box" construction and ABS plastic pharmacist's pill bottle cowl makes construction a snap.

Little Mulligan wing is a stock Ace foam wing cut down as per plan. Entire model covered with white Solarfilm, black MonoKote trim for windows.





ABOVE: Author's Little Mulligan with cowl removed. Cox Tee Dee .051 mounted on Cox Tank Mount. Small hardwood blocks on top and bottom accept sheet metal cowl hold down screws. Hallco landing gear used with simple, built-up wheel pants. **RIGHT:** EK Products LRB two channel brick installed in Don Dewey's prototype. After many successful flights with this excellent proportional system, a Cannon Electronics Cinder Block was received by RCM for testing and evaluation. The mounts were interchangeable with the EK unit, so the Cinder Block was installed in the Little Mulligan. The Cannon proportional system was also found to be an outstanding, lightweight system, ideally suited for Half-A Midget Racing.



cut out the 1/4" sheet balsa front top and bottom pieces and glue them in place. Add the top and bottom rear sheeting, stabilizer and rudder. Sand, and you are ready to paint. Additional structure in the fuselage is not necessary. I used 3/32" sheet balsa, instead of 1/16" sheet, and this additional thickness gives more than adequate strength.

Using Titebond or epoxy, glue the trailing edge stock to the wing halves. Shape the wing tips with sandpaper and epoxy the two halves together following the directions that come with the Ace foam wing in order to obtain the proper dihedral angle. Cover the wing with white Solarfilm or use paint that will not attack the foam. If in doubt, test the paint on some of the scrap foam from the wing tips. Water based acrylic paint from an artists supply store or PLA spray enamel for plastic models will work. For the wing numbers I used black contact paper. Regular trim MonoKote or decals could also be used. The windows on the fuselage were painted on with flat black dope. Don Dewey's prototype was covered completely with white Solarfilm, using black trim MonoKote for windows and decals for the registration numbers.

The original Mt. Mulligan was all white and this was the main reason I selected it. I knew I could get a white ABS plastic bottle the right size for the engine cowl. There are many products marketed in this 2 1/2" plastic squeeze bottle. Acetone will wipe away any printing or label without damaging the plastic. The length of the cowl will depend on which engine and fuel tank you use. I used the Cox .049 Medallion engine on the red plastic Cox tank mount. RCM used the T-D .051. The cowl is held in place by two small wood screws into small pieces of 1/8" plywood epoxied into the balsa above and below the firewall.

The wheel pants are optional, but they certainly add to the appearance of the airplane. When covered with Super MonoKote or Solarfilm, they are quite durable.

I used figure eight sewn thread hinges using heavy white carpet thread for the rudder and elevator. The control horns were made from scrap 1/16" plywood and epoxied to the rudder and elevator. For pushrods I used straight pieces of 1/16" piano wire. Although wire pushrods are not normally recommended, I have not had any problems with this installation.

Wrap the receiver and battery pack with foam rubber and stuff them, battery first, into the nose. The servo rails are 3/8" x 1" pine epoxied across the fuselage. With the equipment installed, as shown, the airplane balances slightly nose-heavy. This aids the stability and makes the controls less sensitive. At first, set the controls for minimum movement. I prefer to start with less sensitive controls and then increase the movement later if desired. Make sure that the control surfaces are straight with the trim levers centered on the transmitter. Even at minimum throws, the airplane will do consecutive rolls faster than you can see them simply by applying full movement of the stick.

My original Little Mulligan weighs 24 ounces with the Kraft four channel receiver, two KPS-10 servos and the small battery pack. Don's weighs 20 ounces with the EK and Cannon two channel brick systems and Solarfilm covering. I used water based artist's acrylic paint on the wing and dope on the fuselage and tail. Even at 24 ounces, the airplane is light.

Hand launch into the wind and enjoy 1/2A Midget Racing! □

FULL SIZE PLANS AVAILABLE